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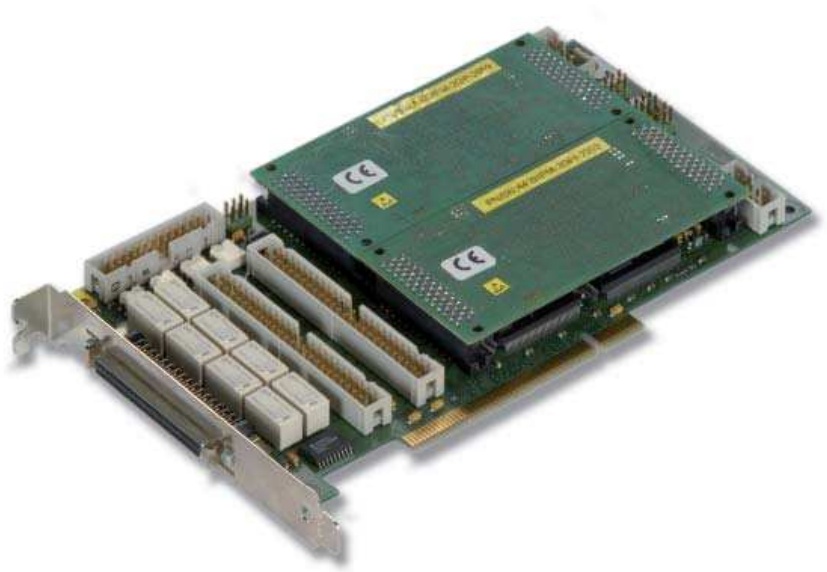
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Find the *TechSAT A429PCI-2G2* at our website: ***Click HERE***

Data Sheet

techSAT
mastering
realtime
complexity

A429PCI-2G
Multichannel Multi-I/O ARINC 429 PCI Board - 2nd Generation



- Up to 8 Tx and 16 Rx channels provided by 2 | 4 intelligent ARINC 429 IP modules on intelligent PCI carrier board
- On-card computing resources (20 MHz CPU, 1MB RAM | EPROM) for highest performance
- On-card avionics discrete I/O (28V | Open | GND)
- Software support for all Windows operating systems and Linux
- General-purpose ARINC 429 Bus Analyzer and Simulator and various Airbus simulations

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Application Area

Avionics maintenance, testing, integration and troubleshooting in both mobile and stationary environments require handy and easy-to-use equipment that offers highest performance as well as large-scale flexibility. The A429PCI with its high channel count, small size and powerful functionality provides an efficient platform for standard analyzing and simulation tools as well as specific ARINC 429 applications. The local on-card processing power (up to 5 microcontrollers) easily masters the demanding real-time requirements of the ARINC 429 protocol and the handling of the increasing amount of information and data exchanged via the ARINC 429 bus.

Features

The A429PCI-2G IndustryPack carrier board is a 2 or 4-slot PCI board, which fully complies with the IP standard. Though featuring specific characteristics for the usage with TechSAT's A429IPM ARINC 429 IP Module, the carrier can be equipped with any kind of IP module compliant to the IP specification. The most valuable IP feature is this possibility to use any I/O typ in any combination (even IP modules from different vendors) on a single board in a single ISA slot. Comprehensive interface libraries (DLLs) for various development environments (MSVC, VB, DELPHI, LabVIEW , HP VEE, ...) and drivers (Linux; Windows XP, 2000, ME, NT, and 9x) allow an easy implementation of PC applications.

Intelligent A429IPM

The basic idea behind the IP IndustryPack concept of the A429IPM is to have an intelligent solution for any kind of backplane, including PC/104, ISA, (c)PCI, VME or VXI. The outstanding feature of the A429IPM is its integrated 20 MHz Siemens C165 Microcontroller with the on-module RAM/EEPROM resources (each 1 MByte). This approach allows shifting all ARINC 429 real-time requirements from the host CPU to the A429IPM ARINC 429 front-end. One microcontroller is responsible for handling all ARINC 429 receive and transmit tasks of 2 Tx and 4 Rx channels autonomously, interfacing with a host application through the intelligent carrier on a functional interface library/DLL level.

Compatibility

The A429PCI-2G software interface is fully compatible with the A29PCC PCMCIA card and the A429EPC ISA-bus board from TechSAT. Hence, it is ensured that all PC applications written for the A429PCC/EPC can be run on the A429PCI. Any standard A429PCC/A429EPC application/simulation from TechSAT will be made available for the A429PCI-2G. The A429BAST Bus Analyzer & Simulation Tool for Windows is able to support all types of TechS.A.T`s ARINC 429 interface boards. Multiple A429PCI-2G interfaces can be operated simultaneously with A429BAST.

Mechanical Outline

The A429PCI-2G assembly consists of a standard short or full-size PCI interface board following the PCI standard, which allows accommodating up to 4 intelligent ARINC 429 IP modules. The board is equipped with Tx-Rx wrap-around relays, discrete avionics I/O capabilities, and inter-IP synchronization signals. All ARINC 429 I/O-lines are brought out on a SCSI III DB68 connector.

Technical Data

ARINC 429, Interface

- Up to 8 Tx channels (not multiplexed !) and 16 Rx channels (con gurable in multiples of 2 Tx / 4 Rx)
- Speed (HS/LS) individually programmable
- Standard ARINC 429 transceivers and line drivers
- Receive data time stamping resolution 10 s, 100 s, 1 ms
- Dynamic update of Tx data (Tx functions Sine, Ramp, Step)
- Data Replay and Data Manipulation
- On-board buffer for 2016 ARINC 429 words + time stamp per receiver (!)
- 256 de nable ARINC 429 labels per transmitter each with independent update rate support
- Autonomous cyclic transmit scheduling, combinable with block transfer
- Label data update sustains transmit schedule
- On-board wraparound relays

IP Interface

- ANSI/VITA 4 IP Module Spec. 1.0
- 2|4 single-wide IP slots
- I/O, ID, Memory, Interrupts
- 8 MB memory size support per module
- 8 MHz bus clock, 2 wait states
- 8/16-bit data bus

PCI Interface

- 2G2 version: 4 Tx / 8 Rx
- 2G4 version: 8 Tx /16 Rx
- 32-bit 5 V PCI assembly
- Uses 16 addresses of the I/O address space
- On-board processor: Siemens C167 microcontroller
- 1 MB static RAM
- 1 MB ash EPROM

Other Features

- 16 general-purpose discrete avionics input lines (28 V|Open|Gnd)
- Four avionics signal level outputs (28 V|Open|Gnd)
- Inter-IP time stamp synchronization
- Eight general-purpose TTL I/O lines

Software

- Compatible with TechSAT's A429PCC|EPC libraries
- Customized A429IPM and carrier rmware on request
- Driver / 32-bit DLL for Windows XP, 2000, NT, ME, 9x
- Linux driver|IF-lib LabVIEW libraries

Available Applications

- A429BAST Bus Analyzer & Simulation Tool for Windows
- A429DataView - ARINC 429 Data Browser & Analysis Tool
- A429CFDS/OMS for Airbus A319/320/321&A330/340
- A739MCDU ARINC 739 MCDU Simulation
- A615A | A615-3 Data Loader applications

Physical Dimensions

- 2G2 version: 186 mm length (max 4 Tx|8 Rx)
- 2G4 version: 312 mm length (max 8 Tx|16 Rx)

Operating Environment

- Temp. operating: 0..55 degC
- Temp. storage: -10..85 degC
- Humidity: 5 to 95% not-condensing

Power Consumption (4 A429IPMs)

- +5V, 2.3 A

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